



King's Research Portal

DOI:

[10.1080/1369118X.2016.1261171](https://doi.org/10.1080/1369118X.2016.1261171)

Document Version

Publisher's PDF, also known as Version of record

[Link to publication record in King's Research Portal](#)

Citation for published version (APA):

Trevisan, F., Hoskins, A., Oates, S., & Mahloul, D. (2016). The Google voter: search engines and elections in the new media ecology. *Information, communication and society*, 21(1), 111-128.
<https://doi.org/10.1080/1369118X.2016.1261171>

Citing this paper

Please note that where the full-text provided on King's Research Portal is the Author Accepted Manuscript or Post-Print version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version for pagination, volume/issue, and date of publication details. And where the final published version is provided on the Research Portal, if citing you are again advised to check the publisher's website for any subsequent corrections.

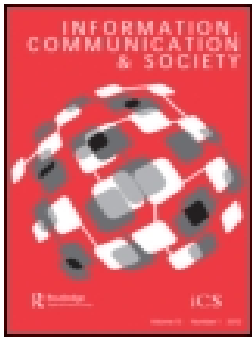
General rights

Copyright and moral rights for the publications made accessible in the Research Portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognize and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the Research Portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the Research Portal

Take down policy

If you believe that this document breaches copyright please contact librarypure@kcl.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



The Google voter: search engines and elections in the new media ecology

Filippo Trevisan, Andrew Hoskins, Sarah Oates & Dounia Mahloully

To cite this article: Filippo Trevisan, Andrew Hoskins, Sarah Oates & Dounia Mahloully (2016): The Google voter: search engines and elections in the new media ecology, Information, Communication & Society, DOI: [10.1080/1369118X.2016.1261171](https://doi.org/10.1080/1369118X.2016.1261171)

To link to this article: <http://dx.doi.org/10.1080/1369118X.2016.1261171>



© 2016 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group



Published online: 01 Dec 2016.



Submit your article to this journal [↗](#)



Article views: 590



View related articles [↗](#)





View Crossmark data [↗](#)



Citing articles: 1 View citing articles [↗](#)

The Google voter: search engines and elections in the new media ecology

Filippo Trevisan ^a, Andrew Hoskins^b, Sarah Oates ^c and Dounia Mahloully^d

^aSchool of Communication, American University, Washington, DC, USA; ^bCollege of Social Sciences, University of Glasgow, Glasgow, UK; ^cPhilip Merrill College of Journalism, University of Maryland, College Park, College Park, MD, USA; ^dDepartment of War Studies, King's College, London, UK

ABSTRACT

This paper explores key Internet search trends for electoral information vis-à-vis the broader media ecology in the UK and the US. An innovative methodology is introduced that maps the informational trajectories of key election events by combining Google Trends data linked to significant news events during the campaigns. While the research found spikes of search that suggested a seemingly trivial event in the US could drive voters to search out deeper information on related policy issues, the study did not find the same phenomenon in the UK. This invites a reflection on the opportunities available to Internet users/voters in the changing informational landscape and how scholars can leverage Google Trends records to better understand how voters seek information in new and evolving media ecologies.

ARTICLE HISTORY

Received 18 March 2016
Accepted 11 November 2016

KEYWORDS

Google Trends; elections;
Internet search; media
ecology; UK; US

The mass media landscape in which elections take place has changed dramatically in recent years. Although established news media outlets continue to be major sources of information about elections, their ability to act as gatekeepers and frame campaigns, issues, and events in specific ways has been mitigated by the rise of new media technologies as direct communication channels between politicians and citizens. In light of these changes, some scholars have expressed concerns about personalized information feeds and tailored messages, which could create information cocoons that restrict pluralism. As Howard (2006) put it, by 'redlining some constituents and communities and then narrowcasting political content, hypermedia campaigns diminish the amount of shared text in the public sphere' (p. 183). Many others expanded on this point, explaining that 'campaigns simply are not designed to be the training grounds of radical democratic participation that many desire' (Kreiss, 2012, p. 183) and that nowadays 'the decidedly undemocratic view of *controlled interactivity* is how most campaigns operate' (Stromer-Galley, 2014, p. 2).

Despite these concerns, however, the vast majority of the research carried out to date to investigate the diffusion of electoral information in this changing media landscape has focused primarily on the 'supply-side' (Lilleker & Vedel, 2013), that is, the online activities

CONTACT Filippo Trevisan  trevisan@american.edu  School of Communication, American University, 4400 Massachusetts Avenue NW, Washington, DC 20016, USA

© 2016 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

of candidates and the content of official campaign messages. Therefore, it is essential to look more broadly at how information about elections is accessed, shared, and re-mediated in today's hyper-connected public sphere. Crucially, neither 'wired' voters nor politicians operate in an informational vacuum. Instead, they are flanked by established print and broadcast outlets, which continue to perform as influential news providers. Researchers need new methods and types of data that can map the trajectories followed by electoral information in such shifting media ecologies.

In this paper, we contribute to methodological development by presenting a new approach that combines the analysis of open access Google Trends data (www.google.com/trends) with the exploration of relevant news coverage. This strategy is applied to the investigation of electoral information flows in two democratic countries with variant political and media structures: the United Kingdom and the United States. Google Trends is employed to explore how users/voters seek information in the new media ecology. This work contributes to the development of new methods for political and public communication research.

1. Elections in the 'new media ecology'

There have been some useful attempts to re-conceptualize contemporary news production and event mediatization processes. In particular, the idea of 'media ecology' – that we define as not only the media environment, but also the media 'imaginary' – of the day that makes possible and shapes a set of relationships between individuals, groups, and communication technologies has gained renewed popularity. It is a useful way of setting out how the avalanche of open access data and Internet search opens up new media imaginaries both for citizen publics and for scholars.

'Media ecology' is a term that has been variously applied to highlight 'the complex symbiotic relationship between the media and, on another level, between media and the various forces in society' (Lum, 2000, p. 1). Many associate the term with the work of Marshall McLuhan, although it has a much longer history.¹ Media ecology is often traced to its naming by Neil Postman in his early 1970s work that attempted to imagine the future of American secondary education. Postman championed the teaching of media ecology as an alternative to English, namely as 'the study of media as environments' (Postman, 1970, p. 161), but also the 'study [of] the interaction between people and their communications technology' (Postman, 1970, p. 161).

Building on this tradition, our study draws upon a more recent development of the idea of a 'new media ecology' (Awan, Hoskins, & O'Loughlin, 2011; Hoskins & O'Loughlin, 2010). This we define as the global hyper-connected media environment that gives rise to distinct media ecologies that are shaped by more localized (and particularly national) factors such as media regulation, journalistic culture, and the dynamic relationship between established and emergent media (Hoskins & Tulloch, 2016). As Kluver (2002) noted, Internet-based media operate on the basis of database logic, which is different from the narrative logic of established news media. This affords Internet users opportunities to gather unprecedented amounts of content and, at least in theory, escape the information 'hegemony' of legacy media. Yet, 'because the [Internet] data must be arranged, the power of arrangement, and thus the power of authority, typically rests with the database operator or designer' (Kluver, 2002, p. 503). This important role is performed largely by

search engines and social networking sites. In addition, the use of new media is influenced by local culture, habits, and user expectations, as well as interactions with established media outlets (Oates, 2011). In light of this, it seems reasonable to assume that, despite the global reach of online media, the ways in which citizens in different countries acquire electoral information are guided by and through distinct media imaginaries.

From this perspective we can investigate empirically how new media technologies challenge the traditional media balance in elections. So far, cross-media research on political information has focused mostly on the relationship between Twitter and television (see, e.g., Anstead & O'Loughlin, 2011; Elmer, 2013). However, Twitter is only one platform in a wide range of new technologies. In addition, Twitter users are a relatively small minority of Internet users, albeit vocal and influential. Search engines are important players in the 'new media ecology,' but so far their use has not been studied in conjunction with traditional mass media. Focusing on key search trends and comparing them with other sources of information about elections, particularly established news media outlets, is an important way for cross-media research dig deeper into the 'demand' side of the political information 'market.'

2. Search engines, information, and politics

Despite the rise of social media as information providers, search engines remain the primary channel through which Internet users access online information in democratic countries such as the UK (Dutton & Blank, 2013) and the US (Purcell, Brenner, & Rainie, 2012). Internet users appear to trust search engines – especially Google – almost blindly, to the point that they question their own ability to search properly before doubting the effectiveness of Google's algorithm (Hillis, Petit, & Jarrett, 2013). This is especially true for young people, who have no experience of the Internet prior to Google (Gunter, Rowlands, & Nicholas, 2009). In light of this, social scientists have spoken of a 'Googlization' phenomenon capable of affecting multiple economic, social, and political aspects of life (Lovink, 2009) and asked whether 'anything (or anyone) matter[s] if it (or she) does not show up on the first page of Google results' (Vaidhyanathan, 2011, p. 7).

These trends have implications for democratic elections. Recent experimental work in this area hypothesized the existence of a 'search engine manipulation effect' for which biased search rankings can directly influence voter choices, affecting election results (Epstein & Robertson, 2015). These claims expanded more established concerns that search engines perpetuate the status quo by favoring dominant information sources (e.g., established news outlets, major political parties, corporations, academic institutions, etc.) while at the same time marginalizing minorities and alternative narratives (Hindman, 2009). This goes back to the fact that search engines essentially operate a loop model for which they 'both contribute to the selection of more prominent sites, and in turn are more influenced by them' (Halavais, 2009, p. 59). This model is set to continue unless a radical shift in consumer preferences or regulative intervention in the construction of search engines takes power away from commercial players such as Google (Mager, 2012).

Concerns about the implications of search for democracy are justified. However, focusing exclusively on search results generates a partial understanding of this phenomenon. Experimental methods rely on artificial settings that privilege search outcomes and therefore cannot clarify when and why people search for information in natural contexts.

Instead, fully exposing patterns of search engine use in pivotal political moments such as elections requires a focus on search ‘inputs’ as well as ‘outputs.’ Do users/voters tend to search the Internet at particular moments in time? How do search patterns compare with the election information provided by other sources, including established news media outlets? Long before the Internet became commercially available, Molotch and Lester (1974) described news consumption as a ‘purposive behavior’ through which audiences filter and interpret information obtained from the mass media according to their own priorities and interests. Internet search, one could argue, expands the purposive nature of information gathering by providing citizens with tools that they trust to sort through virtually limitless amounts of content to fulfill specific informational needs and interests.

Online information-gathering in the new media ecology occurs alongside and in combination with, not in opposition to, the continued contribution of legacy news media to electoral contests (Vergeer, 2013). Therefore, investigating search engine use requires us to track the informational trajectories of key electoral issues across both search engines and established forms of media. Researchers must be able to identify when new issues gain prominence on different forms of mass media, which can provide useful cues as to who (or what) drives election information flows in the new media ecology. In an effort to better understand this dynamic informational space, this paper proposes to compare search trends over time with relevant news media trends. Our use of Google Trends is a key element in transforming the understanding of electoral information flows in this complex emergent environment.

3. Google Trends: opportunities and drawbacks

Google Trends is a freely available tool that elaborates archived search records to show fluctuations in the popularity of any given keywords on Google, provided that a minimum number of relevant searches were carried out over a set period of time. Google Trends has become popular with researchers in a number of fields, from economics (Kaeserbauer, Hohenstatt, & Reed, 2012) to environmental studies (Chai & Sasaki, 2011). In particular, the number of scientific publications including Google Trends data has grown steadily in the areas of epidemiology and public health (Nuti et al., 2014). Some public opinion scholars have pioneered the use of Google Trends as a ‘salience’ barometer (Scharkow & Vogelsgang, 2011; Scheitle, 2011). Yet, so far the application of this tool in political and public communication research has been much more limited than in other fields. To understand its relevance for this type of research, it is useful to briefly review how it works.

Google Trends output consists of normalized data measured against the total number of searches registered during the period under scrutiny. Individual Google Trends scores are derived from actual search records normalized on a 0–100 scale, where 100 represents the day, week, or month – depending on the amount of time under examination – in which the given keywords were searched most frequently. All the other values are calculated in function of their distance from the top score. Thus, Google Trends identifies swings in user-interest for specific topics, people, or events by carrying out longitudinal comparisons of the search frequency for inter-related terms within one or multiple countries, as well as on a global scale. The output can be downloaded in CSV format and used to build additional visualizations. Google Trends also automatically identifies the terms that users searched most frequently in conjunction with those suggested by

the researcher. This may offer insights into how users move between topics or different aspects of the same topic. Superimposing this type of information on a timeline of key campaign events and relevant news media coverage could help to clarify information flows in contemporary elections.

Nevertheless, the actual number of relevant search queries carried out for an individual keyword or a set of keywords remains undisclosed. In addition, Google Trends tells us how likely users were to run a certain search query at any one time, but it does not reveal the results of these searches or which URLs users clicked on. The lack of even a rough estimate of search volume makes the use of Google Trends output in lieu of public opinion survey data impractical and inappropriate. Thus, recent studies found that Google Trends is a poor predictor of election results (Lui, Metaxas, & Mustafaraj, 2011; Yasseri & Bright, 2013). Although Google is the preferred search engine for a large majority of Internet users in the UK and the US, this is still not the case for every single user. Similarly to Twitter-based research, studies using Google Trends should clarify that findings relate only to Google users and not all Internet users or, worse, an entire country population (Trevisan, 2014). As with other digital data, it would be misleading to assume that search engine records provide a cheaper alternative for significant population indicators or more expensive methods such as opinion polls and surveys.

Given that Google Trends' results depend on the specific keyword(s) and timeframe selected for analysis, its output can be interpreted correctly only in conjunction with the surrounding political and media context. Search analysis should not be developed in isolation. Instead, it is most useful in combination with other methods to study increasingly complex media ecologies. One way of doing this is by creating a measure of 'news popularity' for the issues, people, or events of interest that can be compared directly with the measure of 'search popularity' obtained from Google Trends. In this study, this was achieved by retrieving all the news items that focused specifically on the issues under scrutiny through Lexis Nexis and subsequently normalizing frequency scores obtained for each day on a scale from 0 to 100, where 100 represents the day with the biggest number of relevant news items and all the other values were derived from it.² Results were then plotted on the same graph as Google Trends scores to establish whether Internet search patterns mirrored trends in news coverage, or Google users had pursued a different informational agenda. Given the exploratory nature of this paper, major search peaks were identified by visually inspecting Google Trends charts and reviewing the associated CSV records. Although they constitute exceptional events, major search peaks provide a useful starting point in exploring the use of search engines as they involve an especially large number of users, with numbers being the key determinant of election success. Future research could test also lagged time series analysis to explore the relationships between smaller search peaks, which visual analysis may miss, and relevant news coverage.

3.1. Case studies: search in different media ecologies

This paper explores two case studies: the UK and the US. There are differences between these democracies that could affect the use of search engines and their relationship with traditional mass media. The UK features a parliamentary system. In addition, commercial players dominate the British print media sector while public-service broadcasters are key producers of TV, radio, and online news that is arguably perceived as 'objective.' In

contrast, the US is characterized by a presidential system and commercial ownership across both print and broadcast media, which is also more polarized.

Both UK and US publics are familiar with online politics, in the context of digital electioneering and through other activities such as e-petitions (Chadwick, 2012). However, these countries are approached as having media ecologies at different stages of development, with different dynamics fostered between ‘traditional’ and ‘emergent’ media. Recent studies highlight an interesting difference between these two countries, with American Internet users especially keen on engaging with digital native news outlets such as Yahoo News, the Huffington Post, and BuzzFeed, while the British online news market is dominated by legacy brands, especially the BBC (Newman, Fletcher, Levy, & Nielsen, 2016, pp. 32–35). These findings seem to suggest that US publics are less reliant on traditional news sources and more inclined to experiment with alternative online information providers. Conversely, UK audiences continue to rely more frequently on established news providers.

As we consider these two country case studies, we also need to remember that media ecologies are inherently dynamic (Strate & Lum, 2000). Several factors, both internal and external, can affect the perspective of citizens on media, as well as relationships between different forms of media. For example, in recent years the BBC’s reputation for integrity has been challenged by scandals involving former presenters and executives. Regional differences have also emerged, with doubts raised about the impartiality of the BBC’s coverage of political events such as the 2014 Scottish independence referendum (Robertson, 2016). This could affect the levels of trust that people have in mass media, with likely implications for how publics use Internet-based tools, including search engines, to access alternative sources of information. Therefore, research that takes an ecological approach should always contextualize its results and remain alert to the limitations involved in trying to assess such a moving target.

For the purpose of this research, Google Trends was used to investigate the popularity of searches involving the names of the main candidates in the 2012 US presidential election (Barack Obama and Mitt Romney) and those of the three main UK party leaders – and therefore candidates to the role of Prime Minister – in the 2010 UK general election (David Cameron, Gordon Brown and Nick Clegg). Geographical parameters were set in Google Trends so that the datasets generated for this study included only domestic searches and expressed local dates and times in each country. Findings from this initial part of the study informed a deeper investigation of country-specific trends.

Party leaders and presidential candidates were useful comparative cases because, despite differences in electoral processes, they tend to catalyze the attention of both traditional news providers and voters in each country. Although the politics of personalization is significantly more important in the US system, personal traits of party leaders, history, and behavior are also widely reported in British campaigns and news coverage (Langer, 2012). In addition, the centrality of party leaders continues to increase as TV debates, which originated in the US, have now become a mainstay of elections in multiple parliamentary democracies, including the UK (Anstead, 2016). That said, future research should look into a broader set of election-related factors and topics as comparative search terms, including political parties and flagship policies.

Having identified key search moments in elections and the potential drivers behind them, we retrieved the news coverage associated with these events from Lexis Nexis’s

‘US publications’ and ‘UK publications’ collections. Given our media ecology approach, these collections were chosen because they are the largest and most representative ones in Lexis Nexis, including all the traditional news sources – both print and broadcast transcripts – that this database carries for each country. Search parameters were set to draw all the news items that mentioned the issues associated with Internet search peaks in their respective headline or lead paragraph, leaving out those that referred to them only in passing. Highly similar items were eliminated automatically by Lexis Nexis. Results were also screened manually for accuracy. This led to the elimination of a small number of news items such as letters to the editor and others that were not directly relevant to the case studies examined here, most notably reports on policy issues in other countries.

4. Findings and discussion

Overall, search patterns identified some broad similarities. However, a more detailed exploration of seemingly equivalent ‘search events’ – that is, particularly intense search traffic surges – in both countries revealed some important differences. Except for those on Election Day (6 May 2010 in the UK; 6 November 2012 in the US) and the day on which David Cameron was appointed new British Prime Minister (11 May 2010), the most substantial search peaks in the three-month periods examined for this study were associated with TV appearances by presidential candidates in the US (Figure 1) and party leaders in the UK (Figure 2). In particular, these surges in search popularity coincided with the televised election debates in both countries. This suggests that major scheduled media events such as the debates continue to be key drivers of citizen interest in politics even in times of unprecedented digital connectivity and hypermedia campaigns.

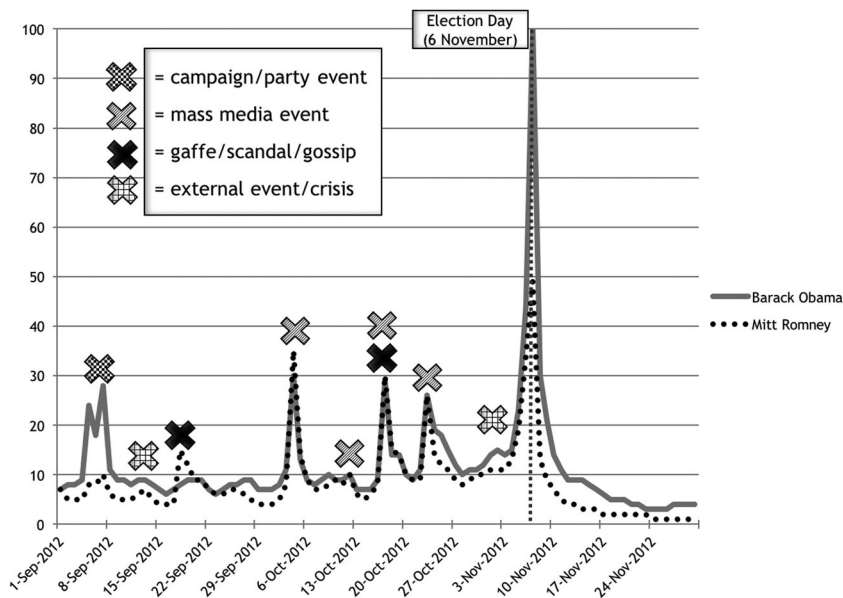


Figure 1. Search popularity for ‘Barack Obama’ and ‘Mitt Romney’ in the US, Sept.-Nov. 2012 (Google Trends scores on Y axis, dates on X axis).

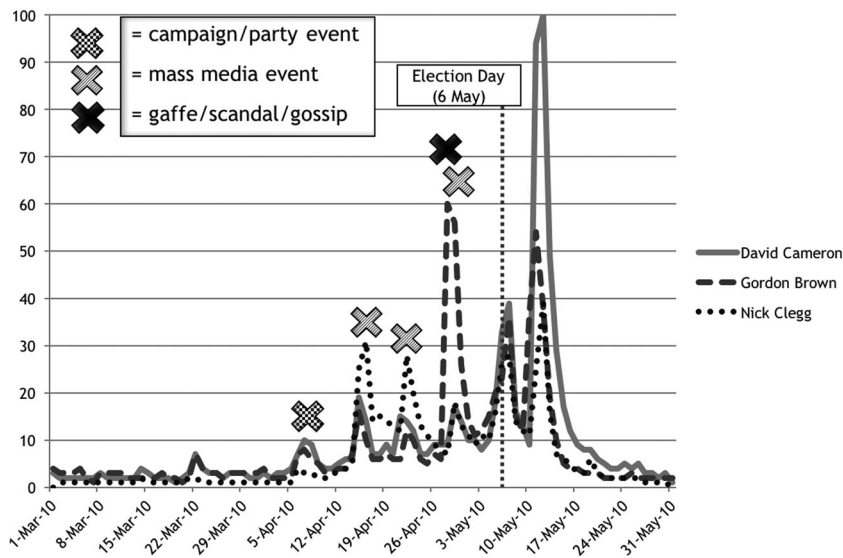


Figure 2. Search popularity for ‘Gordon Brown,’ ‘David Cameron,’ and ‘Nick Clegg’ in the UK, March–May 2010 (Google Trends scores on Y axis, dates on X axis).

It was especially interesting to note that, in conjunction with the first two UK TV debates (15 and 22 April), the Liberal-Democrat leader Nick Clegg was ‘Googled’ considerably more than both the incumbent Prime Minister (Gordon Brown) and the leader of the opposition (David Cameron). Prior to the first debate, ‘journalists and commentators had largely ignored Clegg’ (Parry & Richardson, 2011, p. 479) so that for the majority of the British electorate ‘he did not really exist’ (Parry & Richardson, 2011, p. 479). As Clegg performed particularly well in that debate, it seems reasonable to hypothesize that this successful TV appearance spurred a flurry of Google searches by citizens who wanted to know more about him. This corroborates the impression that high-profile TV events tend to act as powerful catalysts of online behavior in elections. That said, the fact that the Liberal-Democrats actually lost five seats in the House of Commons at the 2010 election suggests that increased media visibility, including on search engines, does not necessarily translate into more votes.

Although TV debates appeared to drive up Internet search in both countries, it is worth noting that search peaks occurred at slightly different moments in the UK compared to the US. British Google users were especially likely to search for information on party leaders on the same days as the televised debates (15, 22, and 29 April). On the other hand, Americans were more likely to query Google for information about Barack Obama and Mitt Romney on the days that immediately followed each of the presidential TV debates, which took place on 3, 16, and 22 October. These results raise the issue of whether temporal differences in otherwise similar search patterns signal different approaches to search engines on the part of the users.

For example, one could hypothesize that British voters used search engines both to learn about party leaders before each debate and check the issues mentioned during the debates in ‘real time.’ Conversely, US voters might have turned to Google in order to review and reflect on what candidates said during the TV debates, possibly looking for

video clips, transcripts, or commentary. While testing these hypotheses goes beyond the scope of this paper and is likely to require in-depth research ‘to understand the psychology of online political participation’ (Lilleker & Vedel, 2013, p. 415), this difference provided the first clue that platforms such as Google may indeed support different types of voter activity in different democratic contexts.

Other notable ‘search catalysts’ in both countries included planned campaign events such as party conventions in the US (Figure 1)³ and the day on which the election was officially called – 6 April 2010 – in the UK (Figure 2), as well as major events unrelated to the campaigns that granted candidates intense media exposure. For example, there was a substantial surge in searches for Barack Obama in conjunction with Hurricane Sandy – especially 31 October – and the president’s visit to disaster-stricken areas. Another external event connected to an increase in searches for the two main presidential candidates in the US was the attack against the American consulate in Benghazi between 11 and 12 September 2012 in which four Americans, including the ambassador, lost their lives. However, other important search peaks did not appear to be linked to any immediately identifiable event. In particular, two of these search peaks stood out: the one registered for US Republican candidate Mitt Romney on 18 September 2012; and the one registered for then British Prime Minister Gordon Brown on 28 April 2010. No key campaign events or planned candidate media appearances took place on those days. Thus, the source of such strengthened user interest was bound to be something less conventional and more spontaneous, outside the direct control of campaign managers.

4.1. Just a laughing matter? Gaffes as search triggers

A look at news reports for those days revealed that both Mitt Romney and Gordon Brown found themselves at the center of rather embarrassing and widely publicized gaffes. On 28 April 2010, a Sky News microphone left inadvertently on Gordon Brown’s jacket caught him describing a Labour party supporter whom he met during a campaign event in Rochdale as a ‘bigoted woman.’ This episode, which British news media immediately labeled as ‘bigot-gate,’ generated huge media attention.

In another embarrassing incident, a secretly recorded video was posted to the website of magazine Mother Jones on 17 September 2012, showing Mitt Romney talking with contempt about the ‘47 per cent of the people who will vote for the president [Obama] no matter what’ during a fundraising event. Furthermore, a look through the other search peaks identified with Google Trends revealed that at least one more of these was connected to a further gaffe by Romney. When he addressed a question about pay equity during the second presidential debate, Romney said that, after he was elected governor of Massachusetts, he asked women’s organizations to recommend talented female candidates to appoint to his cabinet. In response, Romney said during the debate, he was given ‘binders full of women.’ This comment immediately sparked a discussion about Romney’s presumed sexist attitudes and popular critique through a considerable number of online memes (Rentschler & Thrift, 2015).

At face value, the emergence of politicians’ gaffes as drivers of Google searches could seem part of a tendency for voters to be more interested in trivial, almost comedic episodes than policy issues. Indeed, this argument resonates with work that shows how citizens have become especially interested in politicians’ personal lives (Stanyer, 2013), which

digital media help to expose by ‘overhearing’ conversations that were not meant for a public audience (Dayan, 2013). However, one has to ask also whether there is more to these search peaks than the mere ‘tabloidization’ of politics. Could it be that these seemingly frivolous episodes became springboards for Google users to search for additional information about policy issues, making a ‘thematic leap’ in their searches? If so, how did these searches compare to news media coverage? We addressed these questions by querying Google Trends for searches about policy issues that voters might have associated with these episodes, namely: women’s rights and gender equity for ‘binders full of women’; and immigration for ‘bigot-gate.’ Thereafter, we compared search results with the popularity of the same issues in the news media in each country.

4.2. ‘Binders full of women’ and gender equity

To explore the interaction between different forms of media, it was useful to analyze in depth the ‘binders full of women’ gaffe, which – like ‘bigot-gate’ in the UK – occurred on TV. For this reason, we queried Google Trends for an aggregate set of keywords closely connected to women’s rights and gender equity issues, including: gender equity; sex equity; women’s rights; women’s pay; pay equity; pay gap; gender gap; and glass ceiling. First, it was apparent that searches for information on women’s rights and gender equity peaked to their maximum level immediately after the ‘binders full of women’ gaffe (17 October, see Figure 3). In addition, on average US Google users were markedly more likely to search for information on women’s rights and gender equity in the period after Romney’s ill-fated remark compared to the six weeks of campaigning that preceded it (Table 1).

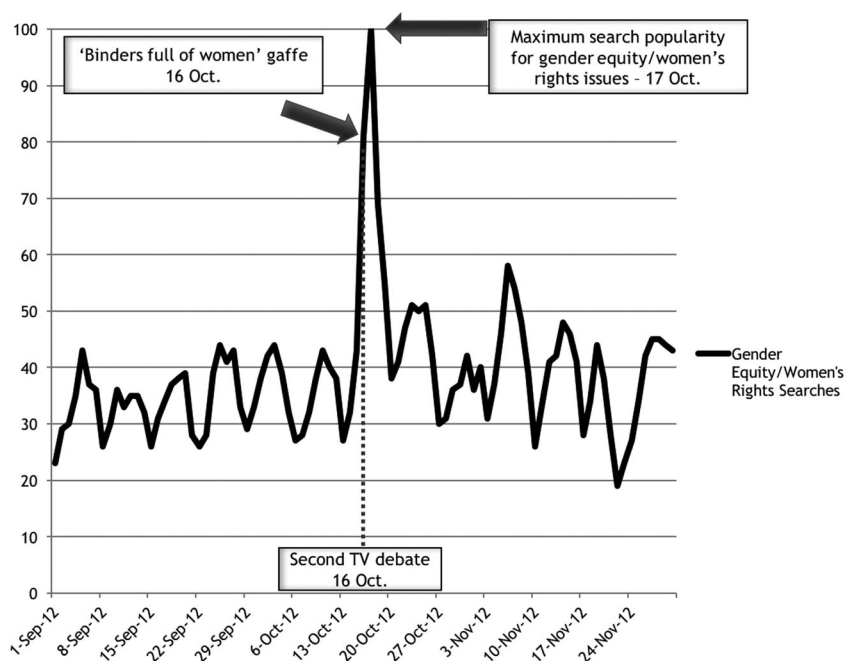


Figure 3. Search popularity for gender equity and women’s rights issues in the US, Sept.-Nov. 2012 (Google Trends scores on Y axis, dates on X axis).

Table 1. Average Google Trends daily score for gender equity and women’s rights issues before/after ‘binders full of women.’

Dates	Average Google Trends score	
	Mean	Median
Before ‘Binders full of women’ (Sept. 1st–Oct. 15th)	34.48	34.5
After ‘Binders full of women’(Oct. 18th–Nov. 30th)	40.5	41

One key hypothesis to explain this increase in interest for women’s rights issues among American Google users would be that the way in which the news media covered Romney’s gaffe prompted them to look for more information on this topic. In order to verify this, we searched Lexis Nexis’s ‘US publications’ collection for news items that mentioned the same keywords we used to query Google Trends in their headline and/or first paragraph between the start of October and Election Day (6 November). The daily frequencies obtained through this process were then normalized to create a ‘news popularity index’ based on the same 0–100 scale used for Google Trends scores as discussed above.

Lexis Nexis searches revealed that news coverage of women’s rights and gender equity increased considerably after the second presidential debate with 205 news items focused primarily on these issues published between October 16 and Election Day, compared to just 99 in the first half of October. That said, looking more closely at the temporal distribution of these news items and comparing it to Google Trends scores showed that, in the immediate aftermath of ‘binders full of women,’ the popularity of women’s rights and gender equity issues among Google users greatly outpaced their popularity on US news outlets (Figure 4). While Google searches for information on these issues peaked to maximum levels on the day after Romney’s gaffe on live TV (17 October), as was discussed above, the highest concentration of news coverage on these issues occurred only several days later (22–26 October).

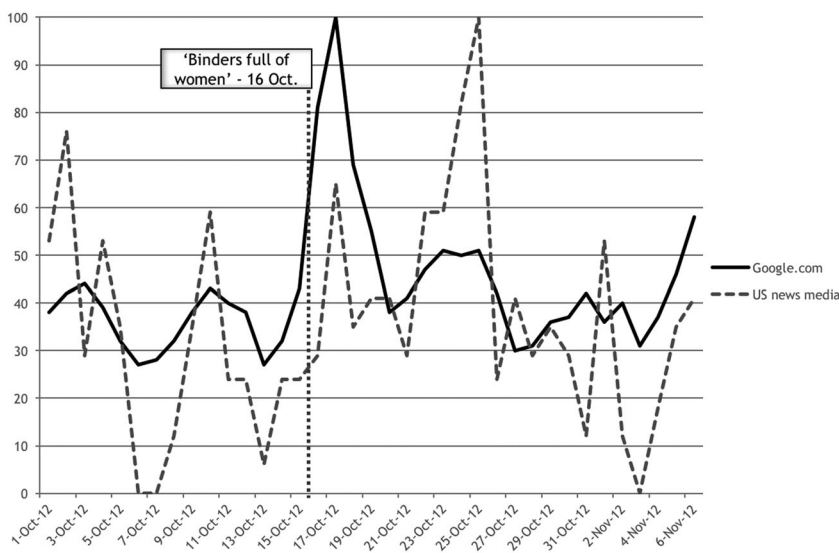


Figure 4. Popularity of women’s rights and gender equity issues on Google.com vs. US news media.

One possible explanation for this would be that journalists needed some time to interpret the significance of the gaffe and incorporate these issues in their coverage, while Google users were able to search for information on related policy topics much more rapidly. However, it is also worth noting that the ‘binders full of women’ gaffe generated a great amount of coverage and was at the center of 117 news items up to Election Day, 35 of which just on 17 October. While this is not the place for a detailed framing analysis of this coverage, it is interesting to note that only 18 of the news items that discussed the ‘binders full of women’ episode in this entire period explicitly mentioned women’s rights and gender equity. This suggests that, while American news media were eager to cover Romney’s gaffe, they also did not connect it to broader policy issues, at least not immediately, while they may have associated it with the candidate’s personality and attitude toward women. In contrast, users/citizens were the first ones to show increased levels of interest in women’s rights and gender equity, turning to Google before established media outlets grasped the newly augmented salience of these issues in the wake of Romney’s words (Figure 4).

It is possible to characterize these results as showing citizens as ‘entrepreneurial’ Internet users in the electoral information space. We acknowledge that it is impossible to know from the search data and news content analysis whether citizen and journalistic interest in women’s rights and gender equity arose spontaneously. What can be interpolated from the data, though, is that a large number of Google users in the US – and therefore a considerable snapshot of the American electorate at that time – showed a very high interest in both the ‘binders full of women’ gaffe and the policy issues surrounding it. While these data are not sufficient to claim that Romney’s ‘binders full of women’ gaffe directly caused a surge in interest for women’s rights issues, it nevertheless shows that, following this episode, users/voters became interested in information that traditional news outlets did not provide immediately and one way for citizens to remedy this gap was to search for information on the Internet. Further work is needed to better understand the influence that the campaigns’ responses to this episode – in particular Obama’s – had on the way in which voters interpreted it before it can be confirmed whether Google users truly acted as ‘emancipated’ information scouts on this occasion. However, what these data do highlight is potential to understand voter interest and engagement with campaign events at a more granular level by using Google Trends.

4.3. ‘Bigot-gate’ and immigration policy

Results for the relevance of ‘bigot-gate’ in UK searches told a very different story. In addition to being associated with the highest search peak for information about Gordon Brown in the entire election period (Figure 2), ‘bigot-gate’ was at the center of considerable media attention in the UK. Searching Lexis Nexis’s ‘UK publications’ collections for news items that mentioned this incident in their headline or lead paragraph up to one week after the election provided a sense for the amount of coverage dedicated to it. Direct coverage and commentary spiked immediately after the incident, with over 140 news items published on the day after ‘bigot-gate’ alone (29 April). However, this trend also dissipated very rapidly (Figure 5).

In this context, it is important to ask whether this gaffe was accompanied by a surge in Google searches for information on policy-relevant issues in the same way as Romney’s

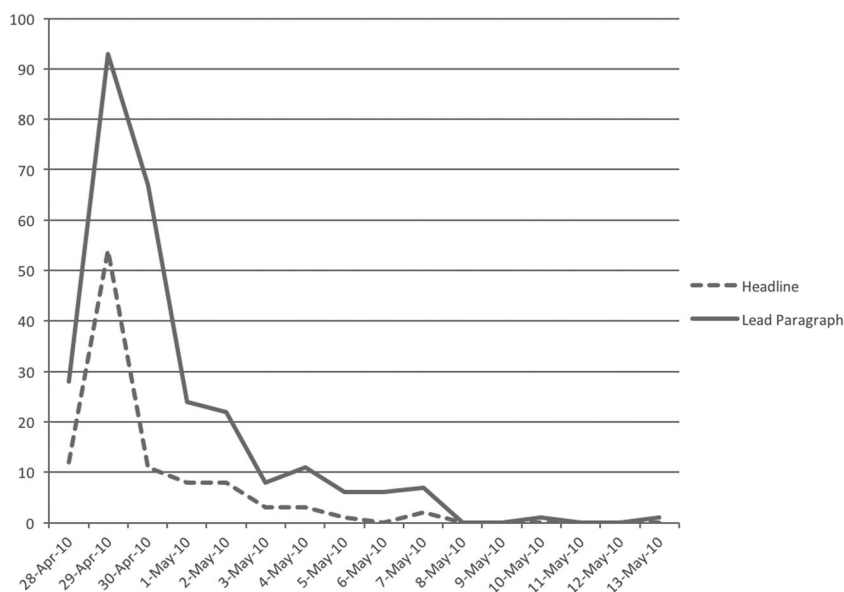


Figure 5. Number of UK news items in which 'bigot-gate' appeared in the headline or lead paragraph.

'binders full of women' in the US. Given that Gordon Brown used the word 'bigoted' in response to a negative comment about migrants made by the Labour supporter he met in Rochdale, some authors have argued that this incident strengthened the centrality of immigration to voter concerns (Bates, 2010; Flynn, Ford, & Somerville, 2010). Thus,

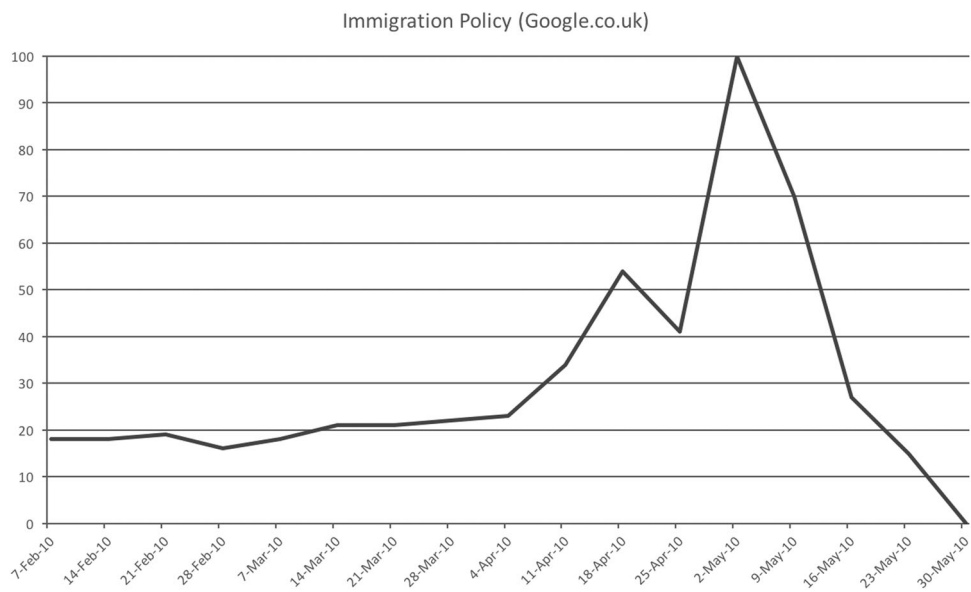


Figure 6. Search popularity for immigration policy issues on Google.co.uk, Feb.-May 2010 (Google Trends scores on Y axis, dates on X axis).

Google Trends was queried for keyword aggregates focusing on immigration policy plans (immigration policy, immigration plan(s), immigration cap).

In contrast with expectations, Google Trends results showed that there had not been a noticeable change in the likelihood that British users would search the Internet for information on immigration-related issues following Gordon Brown's gaffe (Figure 6). In fact, a dip in the number of Google searches for specific information on immigration policy was registered during the week of 'bigot-gate' compared to the previous one. The very fact that Google Trends only provides weekly scores for these searches signals that the daily volume of relevant searches carried out by British users in this period was relatively low, contradicting the assumption that 'bigot-gate' had increased voter concerns around immigration and heightened the interest in relevant policies. Instead, it seems that Gordon Brown's gaffe, unlike Mitt Romney's 'binders full of women,' fell short of fueling a demand for 'thematic' information among British Google users.

These search trends were in line with the way in which the British press covered 'bigot-gate,' given that only a really small number ($n = 16$) of the hundreds of news items published about this episode explicitly mentioned immigration. British voters did not remedy this lack of coverage about an important policy area by turning to Internet search. Instead, these data corroborate the hypothesis that the news narrative around 'bigot-gate' encouraged citizens to associate Gordon Brown's words with his 'dysfunctional' personality and perceived inability to connect with ordinary people (Cantijoch, Cutts, & Gibson, 2013; Higgins & Smith, 2013; Wring & Ward, 2010). This, in turn, promoted an 'episodic' interpretation of this incident over one connected to broader policy themes, suggesting that British Google users approached Internet search as a way to essentially confirm their pre-existing views of a candidate.

5. Conclusions

For this research, we used Google Trends to highlight the distinctive roles played by Internet search in two different media ecologies. We also explored the contribution of Google Trends to the information tool-kit in analyzing voters in the new media ecology. The evidence collected for this study shows that high-profile mediated events such as TV debates between candidates constitute key drivers of Internet searches in elections. Among televised moments, politicians' gaffes emerged as particularly powerful search catalysts. Furthermore, major 'staged' campaign events and external crises – for example, the Benghazi attack and hurricane Sandy – can act also as search boosters. While these general trends applied to both the US and UK case studies examined here, there were also some important differences in how Google users in each country followed up on these search 'triggers' to find more information online.

In particular, the analysis of key search trends following Mitt Romney's 'binders full of women' gaffe in 2012 showed that US Google users were able to use an arguably trivial episode as a springboard to complete a 'thematic leap' in their Internet searches, looking for information about policy issues related to that episode (gender equity and women's rights). Crucially, this spike in 'thematic' searches occurred before traditional news media intercepted and responded to the demand for information in that area. In contrast, British Google users did not complete a comparable 'thematic leap' following Brown's 'bigot-gate' gaffe in 2010. Indeed, more research is needed to clarify whether this episode

signaled a broader tendency for UK voters to be less entrepreneurial in seeking out campaign information in Internet searches. There could be varying hypotheses for this, linked to the specific features of British political communication and the local media ecology.

Notably, unlike US voters, British voters have strong, programmatic political parties that communicate their issues more systematically and effectively than US parties the vast majority of the time. Another intriguing hypothesis to explore would be whether British publics are more likely to align their online searches with the topics and personalities promoted on legacy media outlets, using the Internet as a complementary rather than alternative source of information. The fact that Nick Clegg, who was relatively unknown to most British voters before the 2010 televised debates, became the most searched party leader following those pivotal media events corroborates the impression that TV in particular can strongly influence search trends in the UK.

Indeed, the latest data on news consumption show that British audiences have a relatively high level of trust in established news organizations compared to other countries, particularly the US (Newman et al., 2016, p. 25). Nevertheless, this is always subject to change. In particular, since the 2010 election the BBC has been mired in a series of scandals and the objectivity of its reporting has been questioned over coverage of events such as the 2014 Scottish independence referendum (Robertson, 2016). These developments could have important implications for search engine use and highlight one of the main limitations associated with case study research, which analyzes in detail a specific set of events while media ecologies are constantly evolving. Finally, the distinct reactions of British and American Google users may be the result of differences between gaffes too, with ‘bigot-gate’ more readily reflecting Gordon Brown’s difficulties in connecting with voters and Mitt Romney’s ‘binders full of women’ interpreted as a slip of the tongue that nevertheless served to catalyze the public’s attention on policy issues.

Aside from the specific findings outlined above, how can publicly available data from Google Trends more broadly inform our understanding of electoral information flows? The research presented here suggests there are two key contributions from a study of Google Trends data. First, it contributes to the idea of information trajectories within the new media ecology; thinking about and studying search results allows us to consider theoretically how individual information-seeking agency through search may shift informational boundaries, as well as actually observe this process in action. As acknowledged above, there are limitations to this process. As search patterns are aggregated and standardized on Google Trends, it is impossible to examine individual behavior. However, by situating Google Trends data within a media ecology framework – which is concerned with flow and cross-fertilization between traditional and online forms of news – we can better see how the affordances of search affect information-seeking behavior. We can see when search results as expressed in Google Trends give compelling evidence that voters are being inspired by events to become more informed on broader points of policy. This could contribute to ideas about how searches specifically and online information seeking more generally may challenge agendas and frames set by traditional news media.

We argue also that the evidence from this study suggests that search engines expand the purposeful nature of information gathering (Molotch & Lester, 1974). While search engines are broadly used as a convenient way of retrieving data, they are criticized for filtering and limiting the amount of information that is visible to users. This has led some to argue that search engines reinforce the informational status quo and can become

significant barriers to democratization and political literacy. While we are not directly challenging those concepts, we feel it important to highlight that Google Trends can demonstrate how Internet users, including potential voters, have greater agency as they can use search to purposively seek out highly specific information in campaigns. Indeed, the scope of the findings is limited by the nature of the publicly available Google Trends data. Yet, we can show how Google Trends both gives us specific insight into voters in key national elections, as well as serves as a useful part of a social-science tool-kit, particularly valuable in analyzing audiences and media interaction in the new media ecology.

Notes

1. For a comprehensive history of competing versions of 'media ecology' and its theoretical influences and uses, see Strate (2006).
2. This required a simple equation: $N : 100 = n : X$.
3. The graph shows a search peak in conjunction with the 2012 Democratic Convention held on 4–6 September. A separate Google Trends query returned a similar search peak for Mitt Romney during the 2012 Republican Convention, which took place between 27–30 August.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Economic and Social Research Council [grant number ES/K007890/1].

Notes on contributors

Filippo Trevisan is Assistant Professor in the School of Communication at American University in Washington, DC, USA [email: trevisan@american.edu].

Andrew Hoskins is Interdisciplinary Research Professor in the College of Social Sciences at the University of Glasgow, UK [email: andrew.hoskins@glasgow.ac.uk].

Sarah Oates is Professor and Senior Scholar at the Philip Merrill College of Journalism at the University of Maryland, College Park, USA [email: soates@umd.edu].

Dounia Mahlouly is a Research Associate in the International Centre for the Study of Radicalisation in the Department of War Studies at King's College, London, UK [email: dounia.mahlouly@kcl.ac.uk].

ORCID

Filippo Trevisan  <http://orcid.org/0000-0003-2463-4596>

Sarah Oates  <http://orcid.org/0000-0003-2154-0121>

References

Anstead, N. (2016). A different beast? Televised election debates in parliamentary democracies. *The International Journal of Press/Politics*, 21, 508–526. doi:10.1177/1940161216649953

- Anstead, N., & O'Loughlin, B. (2011). The emerging viewtariat and *BBC question time*: Television debate and real-time commenting online. *The International Journal of Press/Politics*, 16, 440–462. doi:10.1177/1940161211415519
- Awan, A., Hoskins, A., & O'Loughlin, B. (2011). *Media and radicalisation: Connectivity and terrorism in the new media ecology*. London: Routledge.
- Bates, D. (2010). Making the white folk angry: The media, 'race' and electoral politics in the United Kingdom in 2010. *Platform: Journal of Media and Communication*, 3, 8–25. Retrieved from <http://platformjmc.com/>
- Cantijoch, M., Cutts, D., & Gibson, R. (2013). Internet use and political engagement: The role of e-campaigning as a pathway to online political participation. UC Irvine Center for the Study of Democracy. Retrieved from <http://escholarship.org/uc/item/538243k2>
- Chadwick, A. (2012). Recent shifts in the relationship between the Internet and democratic engagement in Britain and the United States: Granularity, informational exuberance, and political learning. In E. Anduiza, M. Jensen, & L. Jorba (Eds.), *Digital media and political engagement worldwide* (pp. 39–55). Cambridge: Cambridge University Press.
- Chai, S., & Sasaki, N. (2011). Using online tools to assess public responses to climate change mitigation policies in Japan. *Future Internet*, 3, 117–129. doi:10.3390/fi3020117
- Dayan, D. (2013). *Overhearing in the public sphere*. Retrieved from <http://www.deliberatelyconsidered.com/2013/02/overhearing-in-the-public-sphere/>
- Dutton, W. H., & Blank, G. (2013). *Cultures of the Internet: The Internet in Britain*. Oxford: Oxford Internet Institute. Retrieved from <http://oxis.oii.ox.ac.uk/reports/>
- Elmer, G. (2013). Live research: Twittering an election debate. *New Media & Society*, 15, 18–30. doi:10.1177/1461444812457328
- Epstein, R., & Robertson, R. (2015). The search engine manipulation effect (SEME) and its possible impact on the outcomes of elections. *Proceedings of the National Academy of Sciences of the United States of America*, 112, E4512–E4521. doi:10.1073/pnas.1418281112
- Flynn, D., Ford, R., & Somerville, W. (2010). Immigration and the election. *Renewal*, 18, 102–114. Retrieved from <http://renewal.org.uk/articles/immigration-and-the-election>
- Gunter, B., Rowlands, I., & Nicholas, D. (2009). *The Google generation: Are ICT innovations changing information-seeking behaviour?* Oxford: Chandos.
- Halavais, A. (2009). *Search engine society*. Cambridge: Polity Press.
- Higgins, M., & Smith, A. (2013). 'My husband, my hero': Selling the political spouses in the 2010 general election. *Journal of Political Marketing*, 12, 197–210. doi:10.1080/15377857.2013.781473
- Hillis, K., Petit, M., & Jarrett, K. (2013). *Google and the culture of search*. New York, NY: Routledge.
- Hindman, M. (2009). *The myth of digital democracy*. Princeton, NJ: Princeton University Press.
- Hoskins, A., & O'Loughlin, B. (2010). *War and media: The emergence of diffused war*. Cambridge: Polity Press.
- Hoskins, A., & Tulloch, J. (2016). *Risk and hyperconnectivity: Media and memories of neoliberalism*. Oxford: Oxford University Press.
- Howard, P. (2006). *New media campaigns and the managed citizen*. Cambridge: Cambridge University Press.
- Kaeserbauer, M., Hohenstatt, R., & Reed, R. (2012). Direct versus search engine traffic: An innovative approach to demand analysis in the property market. *International Journal of Housing Markets and Analysis*, 5, 392–413. doi:10.1108/125382711268538
- Kluver, A. R. (2002). The logic of new media in international affairs. *New Media & Society*, 4, 499–517. doi:10.1177/146144402321466787
- Kreiss, D. (2012). *Taking our country back: The crafting of networked politics from Howard Dean to Barack Obama*. New York: Oxford University Press.
- Langer, A. (2012). *The personalisation of politics in the UK: Mediated leadership from Attlee to Cameron*. Manchester: Manchester University Press.
- Lilleker, D., & Vedel, T. (2013). The Internet in campaigns and elections. In W. Dutton (Ed.), *The Oxford handbook of Internet studies* (pp. 401–420). Oxford: Oxford University Press.
- Lovink, G. (2009). Society of the query: The Googlization of our lives. In K. Becker & F. Stalder (Eds.), *Deep search: The politics of search beyond Google* (pp. 45–53). Innsbruck: Studien Verlag.

- Lui, C., Metaxas, P. T., & Mustafaraj, E. (2011). On the pre-dictability of the US elections through search volume activity. Retrieved from <http://bit.ly/gJ6t8j>
- Lum, C. M. K. (2000). Introduction: The intellectual roots of media ecology. *The New Jersey Journal of Communication*, 8, 1–7. doi:10.1080/15456870009367375
- Mager, A. (2012). Algorithmic ideology: How capitalist society shapes search engines. *Information, Communication & Society*, 15, 769–787.
- Molotch, H., & Lester, M. (1974). News as purposive behavior: On the strategic use of routine events, accidents, and scandals. *American Sociological Review*, 39, 101–112. Retrieved from <http://www.jstor.org/journal/amersocirevi>
- Newman, N., Fletcher, R., Levy, D. A., & Nielsen, R. K. (2016). *Reuters institute digital news report 2016*. Oxford: Reuters Institute for the Study of Journalism. Retrieved from <http://www.digitalnewsreport.org/>
- Nuti, S. V., Wayda, B., Runasinghe, I., Wang, S., Dryer, R. P., Chen, S. I., & Murugiah, K. (2014). The use of Google Trends in health care research: A systematic review. *PLOS One*, 9, doi:10.1371/journal.pone.0109583
- Oates, S. (2011). Going native: The value in reconceptualizing international internet service providers as domestic media outlets. *Philosophy and Technology*, 24, 391–409. doi:10.1007/s13347-011-0045-4
- Parry, K., & Richardson, K. (2011). Political imagery in the British general election of 2010: The curious case of ‘Nick Clegg’. *British Journal of Politics and International Relations*, 13, 474–489. doi:10.1111/j.1467-856X.2011.00452.x
- Postman, N. (1970). The reformed English curriculum. In A. C. Eurich (Ed.), *The shape of the future in American secondary education* (pp. 160–168). New York, NY: Pitman.
- Purcell, K., Brenner, J., & Rainie, L. (2012). *Search engine use 2012*. Washington, DC: Pew Internet and American Life Project.
- Rentschler, C. A., & Thrift, S. C. (2015). Doing feminism in the network: Networked laughter and the “Binders full of Women” meme. *Feminist Theory*, 16, 329–359. doi:10.1177/1464700115604136
- Robertson, J. (2016). Scottish TV coverage of the referendum campaign from September 2012 to September 2014. In N. Blain, D. Hutchison, & G. Hassan (Eds.), *Scotland's referendum and the media: National and international perspectives* (pp. 59–69). Edinburgh: Edinburgh University Press.
- Scharkow, M., & Vogelsang, J. (2011). Measuring the public agenda using search engine queries. *International Journal of Public Opinion Research*, 23, 104–113. doi:10.1093/ijpor/edq048
- Scheitle, C. (2011). Google's insights for search: A note evaluating the use of search engine data in social research. *Social Science Quarterly*, 92, 285–295. doi:10.1111/j.1540-6237.2011.00768.x
- Stanyer, J. (2013). *Intimate politics: Publicity, privacy and the personal lives of politicians in media-saturated democracies*. Cambridge: Polity Press.
- Strate, L. (2006). *Echoes and reflections: On media ecology as a field of study*. Cresskill, NJ: Hampton Press.
- Strate, L., & Lum, C. M. K. (2000). Lewis Mumford and the ecology of technics. *The New Jersey Journal of Communication*, 8, 56–78. doi:10.1080/15456870009367379
- Stromer-Galley, J. (2014). *Presidential campaigning in the Internet age*. New York: Oxford University Press.
- Trevisan, F. (2014). Search engines: From social science objects to academic inquiry tools. *First Monday*, 19(11). doi:10.5210/fm.v19i11.5237
- Vaidhyanathan, S. (2011). *The Googlization of everything (and why we should worry)*. Berkeley, CA: University of California Press.
- Vergeer, M. (2013). Politics, elections and online campaigning: Past, present ... and a peek into the future. *New Media & Society*, 15, 9–17. doi:10.1177/1461444812457327
- Wring, D., & Ward, S. (2010). The media and the 2010 campaign: The television election? *Parliamentary Affairs*, 63, 802–817. doi:10.1093/pa/gsq024
- Yasserli, T., & Bright, J. (2013). Can electoral popularity be predicted using socially generated big data? Retrieved from <http://arxiv.org/pdf/1312.2818v1.pdf>